



October 18, 2013

Mr. Spencer Harris, Town Septic Consultant
Town of Charlotte Municipal Offices
P.O. Box 119
Charlotte, Vt., 05445

Re: Vermont Wildflower Farm, Chris & Diana Borie, Charlotte, Vt.

Dear Spencer,

On behalf of our clients Chris & Diana Borie, please find attached a sanitary plan set for review and permitting in the Town of Charlotte, Vt.

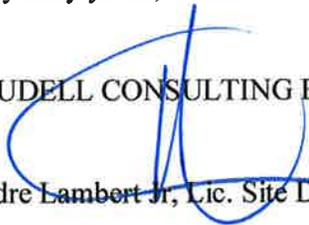
This office has gathered extensive information pertaining to the design of this proposal, the contents of which you shall find in the submittal package.

Please review this proposal for permitting of this project.

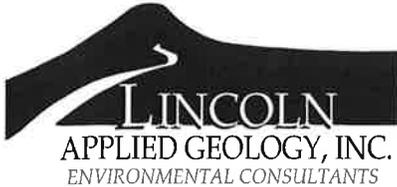
Please feel free to contact this office with any pertinent questions.

Very truly yours,

TRUDELL CONSULTING ENGINEERS (TCE)


Andre Lambert Jr., Lic. Site Designer 406-B

Enclosures: Borie Submittal Set, Lincoln Applied Geology Hydrostudy, WW application and fee.



October 11, 2013

Mr. John Pitrowiski, P.E.
Trudell Consulting Engineers
P.O. Box 308
478 Blair Park Road
Williston, VT 05495

RE: Chris and Diana Borie, Vermont Wildflower Farm, 3488 Ethan Allen Highway, Charlotte, VT-
Change in use Hydrogeologic Analysis

Dear John:

As you know the Vermont Wildflower Farm has out grown their current facility. In this regard the owners Chris and Diana Borie would like to change the use of the commercial space into a restaurant. To accomplish this and determine the wastewater flow capacity of the site, a site and soil evaluation survey was conducted on August 19, 2013 with test pits, a detailed topographic survey and a wetland and wetland buffer delineation. This was a joint effort with myself, Andre Lambert of Trudell Consulting Engineers (TCE) and Spencer Harris representing the Town of Charlotte. The overall site plan with 2 foot contours is shown on TCE Site Plan C3-01 dated 10/7/13 which has been amended with soil testing locations, slope information, a performance based mound type disposal area design, and wetland and wetland buffer boundary. Based on the following hydrogeologic effluent mounding analysis, I recommended the 6' x 193' bed type performance based mound with 2.5' of mound sand that is shown on the TCE Site Plan C3-01. In this regard, the mound design provides the basis for my detailed analysis.

Initially, the general disposal capacity of the site was defined with a ballparking analysis using Darcy's Law, a static and very conservative analysis for a flow range of 600 to 1200 gallons per day (gpd). The site topographic plan, mound design, and the soil profile descriptions shown on TCE Site Plan C3-01 provided the basis of analysis. The soil profile across the proposed disposal area is generally consistent with the following description described by myself. The description is consistent with those presented by Andre Lambert of TCE but slightly more conservative.

0-8 to 10" Medium brown fine sandy loam, loose, strong crumb to fine blocky structure, well drained
8 to 10"-36" Brown to tan clay loam grading to clay, firm, weak blocky to platy structure, sticky, becoming firmer with weaker more massive structure with depth, well defined permeability boundary resulting in a seasonally perched water table and the presence of wetland downgradient of the disposal area.

There was some question during the 8/19/13 soil evaluation survey whether the upper part of the profile was a fine sandy loam or a loam to silt loam. As a result, a representative soil sample was collected and submitted to Knight Consulting Engineers, Inc. for the textural analysis. The results are attached which clearly indicate a fine sandy loam texture.

The Darcy's Law ($Q = k i h l$) calculations were based on a Q range of 600 to 1200 gpd, k = a hydraulic conductivity of 30 feet/day for strongly developed blocky structured fine sandy loam, i = a slope of 0.05 feet/foot, h = effluent mounding in feet, and l = a mound application area length of 195' (includes 2' of level area) and a mound toe length of 220'. Because the static Darcy analysis is so conservative, a slope of 0.05 feet/foot and a depth to seasonal water table of 10" (0.83') were used to define a ballpark site capacity of 1000 gpd.

Mounding beneath the 195' application area was calculated in the following manner.

$$133.7 \text{ ft}^3/\text{day} (1000 \text{ gpd}) = 30 \text{ ft/day} \times 0.05 \text{ ft/ft} \times h \text{ft} \times 195 \text{ft}$$

Solving for h = 0.46 feet which when compared to 0.83 foot depth of mottling indicates 0.37' of unsaturated soil would remain beneath the mound.

Mounding beneath the 220' mound toe was calculated in the following manner.

$$133.7 \text{ ft}^3/\text{day} = 30 \text{ ft/day} \times 0.05 \text{ ft/ft} \times h \text{ in ft} \times 220 \text{ ft}$$

Solving for h = 0.41 feet which when compared to 0.83 foot depth of mottling indicates 0.42' of unsaturated soil would remain beneath the toe of the mound.

The Darcys Law analysis provides a general sense of the sites wastewater capacity so that a more reasonable dynamic effluent mounding analysis can be performed. The wastewater disposal systems are being designed by TCE to meet the performance-based approach requirement that the mounded water table will remain at least 6" below the surface of the naturally occurring soil beneath the mound and the basal area. A calculation of the lateral (downgradient) extent of mounding is required. The dynamic model proposed by Khan et al¹ to assess the characteristics and geometry of the induced mound below the proposed infiltration area was chosen. This is a widely accepted model which requires the assumption that a low permeability soil layer exists at depth. The assumption of a low permeability layer at depth is completely reasonable considering local and regional geology and the presence of lake bottom clays below the more permeable soils in this part of the Champlain Valley

The Khan analysis assumes a hydraulic conductivity value of 30ft/day for structured fine sandy loams. The "worst case" scenario indicates that the Seasonal High Water Table (SHWT) beneath the proposed mound and basal area was found at a depth of 8" below grade. TCE is proposing a single 6' x 193' long mound with 2.5' of mound sand below the bottom of the application area.

The Khan model does require an understanding of the local hydrogeological system as well as the assumptions of uniform geometry, two media types, saturated flows, constant infiltration rate, uniform application, and that the width of the proposed lateral is much smaller than the length. The assumptions are not unreasonable, and allow the model to be used to obtain a general sense of the geometry of the theoretical induced mound.

The model is based on the following equation:

$$H_s = w \left[\frac{K_2}{K_1} \left(\frac{q^1}{K_2} - 1 \right) \left(\frac{q^1}{K_2} - \frac{x_s^2}{W^2} \right) \right]^{1/2}$$

Where H_s	=	Height of the induced mound (ft)
w	=	$\frac{1}{2}$ Design basal area width (ft) = 15'
q^1	=	Effective wastewater infiltration rate per unit width of infiltration area $Q/A = (133.1 \text{ ft}^3/\text{day}) / (5790 \text{ ft}^2) = 0.0231 \text{ ft/day}$
K_1	=	Hydraulic conductivity of infiltration area = 30 ft/day
K_2	=	Hydraulic conductivity of basal layer = 0.02 ft/day
X_s	=	Distance from center of induced mound (ft)

¹ Khan, M.Y., D. Kirkham, and R.L. Handy. 1976. "Shapes of Steady State perched Groundwater Mounds." Water Resour. Res. 12(3), 429-436.

Based on the valley bottom clays and the presence of wetlands related to the presence of low permeability clays, a conservative estimate of K_2 is provided to calculate a "worst-case" scenario.

The model predicts that the maximum height of the mound, $H_{max} = 0.16'$ when $x_s = 0'$ which is beneath the center of the overall application area. Using a series of iterations with increasing values of x_s , the model predicts that the lateral (downgradient) extent of the effluent induced mound will be negligible 16' from the application area.

When $H_{max} = 0.16'$ is related to the worst-case SHWT of 8" or 0.67', it indicates 0.51' of unsaturated fine sandy loam will remain beneath the application area. It further indicates that 8" or 0.67' of unsaturated fine sandy loam will remain 16' downgradient of the application area.

Based on the conservative static Darcy analysis which led into the dynamic Khan analysis, it is my professional opinion that the site can handle 1000 gpd while leaving at least 0.5' of unsaturated soil beneath the proposed mound disposal area. To ensure 3' of vertical separation from the seasonal groundwater system, 2.5' of approved mound sand must be used beneath the application area. As a following note and in an effort to provide a reasonable level of safety factor, I suggest that the proposed upslope drainage swale be changed to a 2 way curtain drain placed 20' upslope of the application area, starting at a depth of 18". The drain should be constructed at a minimum 1% grade and be completely filled with $\frac{3}{4}$ to 1 $\frac{1}{2}$ clean aggregate to function as both a surface and shallow groundwater diversion structure. Upon reaching the top of the application area, the drain should be finished with solid pipe backfilled with compacted native soil and extended to daylight.

If you have any questions, please give me a call at 453-4384.

Very truly yours,
Lincoln Applied Geology, Inc.



Stephen Revell, CPG
Senior Hydrogeologist

SR/ih

Enclosure

CC: Chris and Diana Borie (with the WW application)
Spencer Harris (with the WW application)

F:\CLIENTS\2013\13094\Change in use Hydrogeologic Analysis.docx



Lincoln Applied Geology, Inc.
Environmental Consultants



TRANSMITTAL

TO: Trudell Consulting Engineers, Inc.
Attn: Andy Lambert

DATE: August 14, 2013
KCE #: 13317
PROJECT: Vermont Wildflower Farm

We are sending you the following items:

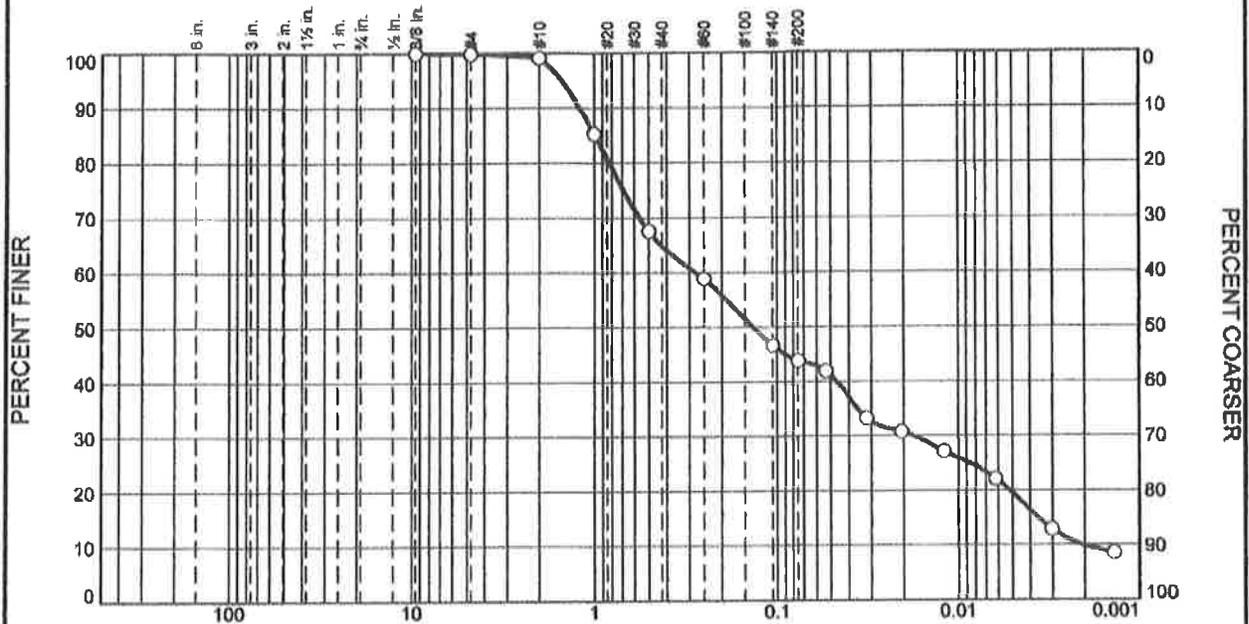
COPIES	DATE	NO. OF PAGES	DESCRIPTION
1	08-13-2013	4	USDA Classification

Signed: Matthew M. Chapak
Project Manager
Testing and Lab Coordinator

MMC:nmv

8/13/1314Transmittal 1.doc

Grain Size Distribution Report



GRAIN SIZE - mm.

% Stones	% +3"	% Gravel			% Sand					% Silt		% Clay
		Coarse	Medium	Fine	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Fine	
0	0	0	0	1	14	17	9	13	4	11	21	10

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3/8"	100		
#4	100		
#10	99		
#18	85		
#35	68		
#60	59		
#140	47		
#200	44		
#270	42		
0.0318 mm.	33		
0.0204 mm.	31		
0.0121 mm.	27		
0.0062 mm.	22		
0.0030 mm.	13		
0.0014 mm.	8.6		

* (no specification provided)

Material Description

Sandy Loam

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D₉₀= 1.2008 D₈₅= 0.9883 D₆₀= 0.2775
D₅₀= 0.1355 D₃₀= 0.0177 D₁₅= 0.0036
D₁₀= 0.0020 C_u= 135.83 C_c= 0.56

Remarks

Sampled and Delivered by Andy on 8-8-13
F.M.=1.27

Date Received: 8-8-13 Date Tested: 8-13-13

Tested By: T.Brothers

Checked By: M.Chapek

Title: Testing Coordinator

Sample Number: 1

Date Sampled: 8-8-13

Knight Consulting Engineers, Inc.
Williston, Vermont

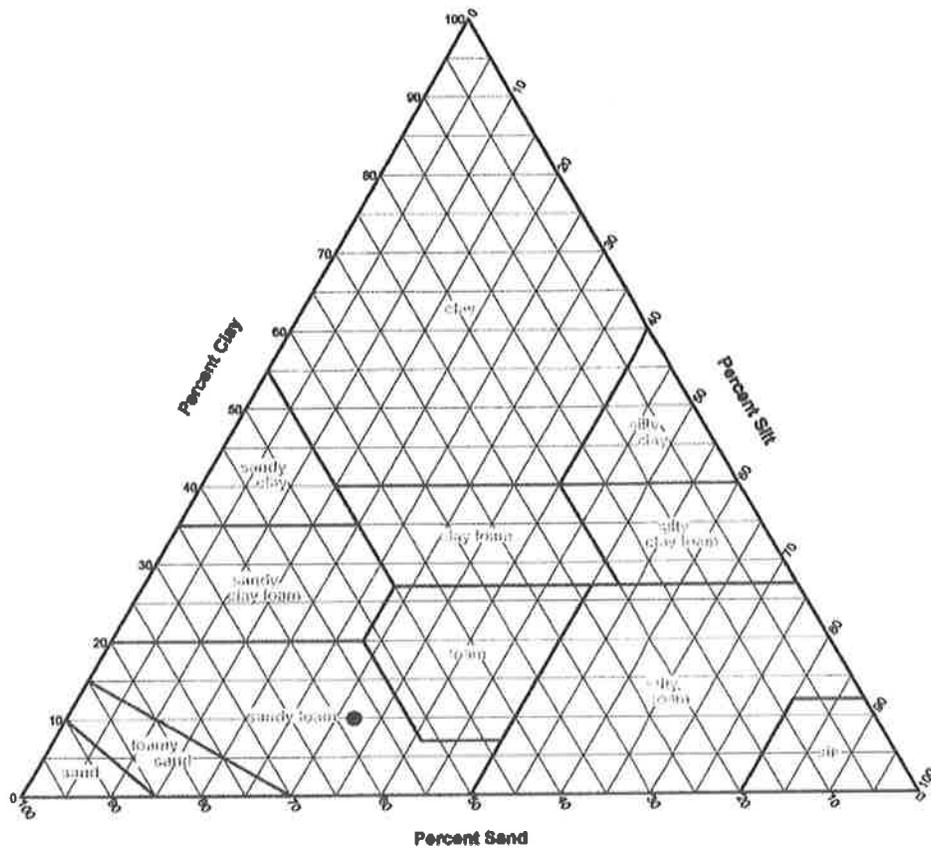
Client: Trudell Consulting Engineers, Inc.
Project: Vermont Wildflower Farm

Project No: 13317

Figure 1-1

Results reflect soil gradation only and not other specification requirements.

USDA Soil Classification



Results reflect soil gradation only and not other specification requirements.

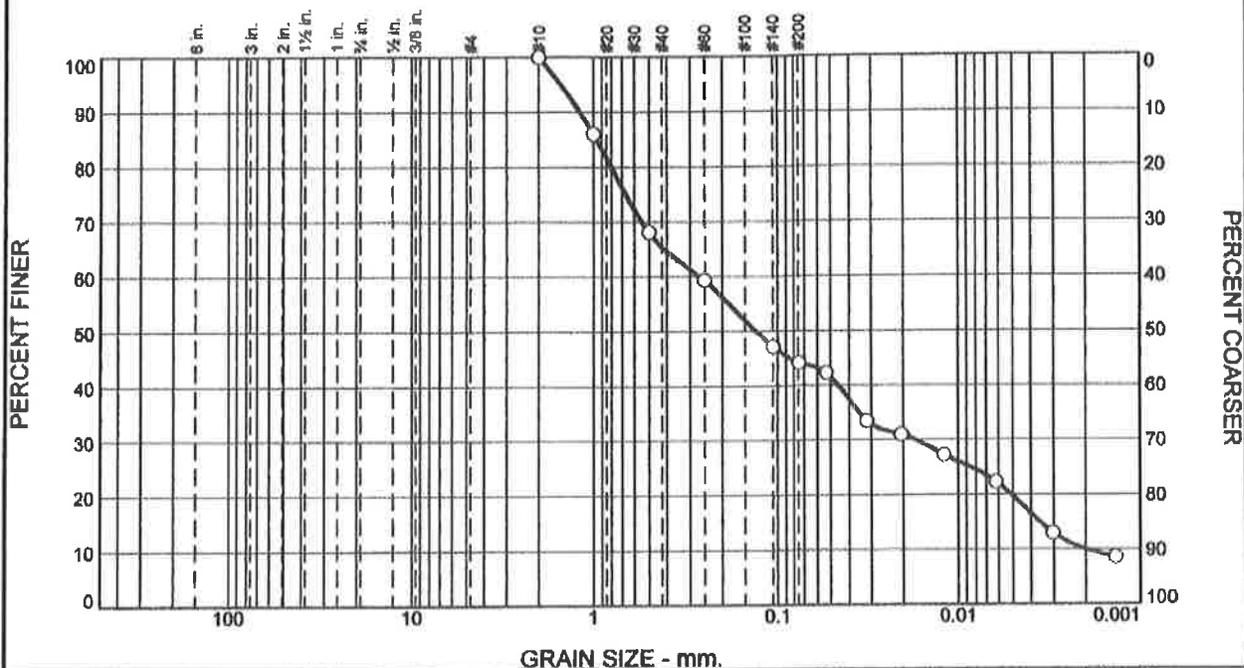
SOIL DATA						
Source	Sample No.	Depth	Percentages From Material Passing a #10 Sieve			Classification
			Sand	Silt	Clay	
●	1		58	32	10	Sandy loam

**Knight Consulting
Engineers, Inc.
Williston, Vermont**

Client: Trudell Consulting Engineers, Inc.
Project: Vermont Wildflower Farm
Project No.: 13317

Figure 1-1

Grain Size Distribution Report



% Stones	% +3"	% Gravel			% Sand					% Silt		% Clay
		Coarse	Medium	Fine	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Fine	
0	0	0	0	0	14	18	9	13	4	11	21	10

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#10	100		
#18	86		
#35	68		
#60	59		
#140	47		
#200	44		
#270	42		
0.0318 mm.	34		
0.0204 mm.	31		
0.0121 mm.	27		
0.0062 mm.	22		
0.0030 mm.	13		
0.0014 mm.	8.7		

* (no specification provided)

Material Description

Sandy Loam

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D₉₀= 1.1824 D₈₅= 0.9590 D₆₀= 0.2649
D₅₀= 0.1313 D₃₀= 0.0171 D₁₅= 0.0036
D₁₀= 0.0020 C_u= 132.05 C_c= 0.55

Remarks

Sampled and Delivered by Andy on 8-8-13
F.M.=1.24

Date Received: 8-8-13 Date Tested: 8-13-13
Tested By: T.Brothers
Checked By: M.Chapek
Title: Testing Coordinator

Sample Number: 1

Date Sampled: 8-8-13

Knight Consulting Engineers, Inc.
Williston, Vermont

Client: Trudell Consulting Engineers, Inc.
Project: Vermont Wildflower Farm

Project No: 13317

Figure 1-1

Results reflect soil gradation only and not other specification requirements.

United States Department of Agriculture
NRCS Natural Resources Conservation Service
Soils

Soil Texture Calculator

Percent Sand:

*Very Coarse Sand:

*Coarse Sand:

*Medium Sand:

*Fine Sand:

*Very Fine Sand:

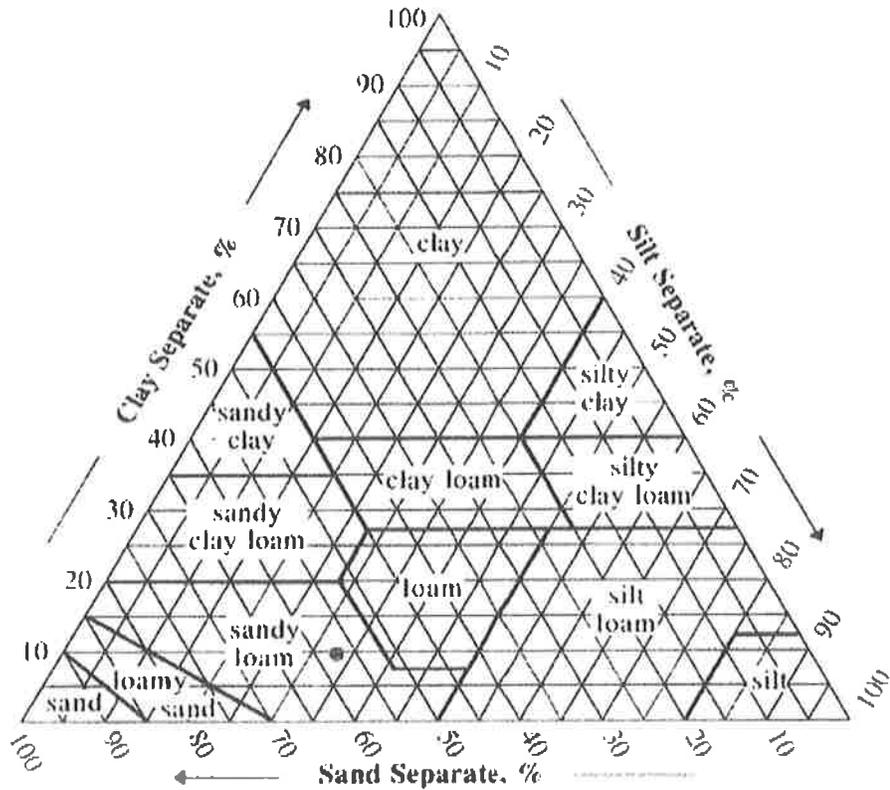
Percent Clay:

Graph Color:

Percent Silt:

Texture:

*Optional



58-3/116
5240972861

188

CND, LLC
678 POND ROAD
HINESBURG, VT 05461

DATE Oct 4th, 2013

PAY TO THE ORDER OF Town of Charlotte \$ 500.00
Five hundred and ^{no} / 100 DOLLARS

Banknorth 111 Main Street
Vermont Burlington, VT 05401

MEMO _____

MP

⑆011600033⑆ 5240972861 0188

7012 3460 0002 0647 5179

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Return Receipt Fee (Endorsement Required)	\$0.00	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 3.56	

Sent To TOWN OF CHARLOTTE
 Street, Apt. No., or PO Box No. PO. Box 119
 City, State, ZIP+4 CHARLOTTE, VT. 05445

PS Form 3800, August 2006 See Reverse for Instructions

7012 3460 0002 0647 5155

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Certified Fee	\$3.10	
Return Receipt Fee (Endorsement Required)	\$0.00	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 3.56	

Sent To SHIRLEY BRUCE
 Street, Apt. No., or PO Box No. 107 BITTERSWEET CIR.
 City, State, ZIP+4 WILLISTON, VT. 05495

PS Form 3800, August 2006 See Reverse for Instructions

Drinking Water & Groundwater Protection Division - Permit Application Wastewater System & Potable Water Supply



For Office Use Only:

Application#	PIN#	Date Complete Application Received
<input type="text"/>	<input type="text"/>	<input type="text"/>

Authority:

10 V.S.A. Chapter 64, the Environmental Protection Rules, Chapter 1, Wastewater System & Potable Water Supply Rules, and Chapter 21, Water Supply Rules, Appendix A. Part 11 - Small Scale Water Systems.

General Information:

The organization and/or content of this form may not be altered, however, the form is designed to expand to allow additional information to be entered. Changes in the organization and/or content of the form may result in an invalid application or permit.

In most cases a licensed designer will be required for your project and to help complete this application form. There are also line-by-line instructions available to assist with completing this form.

NOTE: We strongly suggest referring to the application instructions while completing this application form.

Part I Applicant (Landowner) & Project Contact Information

Section A - Applicant Details (if Landowner is an Individual or Individuals)

1 Last Name Borie		2 First Name (and Middle Initial if appropriate) Chris & Diana	
3 Mailing Address Line 1 P.O. Box 96		4 Mailing Address Line 2	
5 Town/City Charlotte	6 State/Province VT	7 Country United States	8 Zip/Postal Code 05445
9 Email Address vermontwildflowerfarm@yahoo.com			10 Telephone 8024253641

Remove This Applicant

Add Another Applicant

Section B - Applicant Details (if Landowner is other than an Individual or Individuals, e.g. Corporations, Homeowner's Associations, etc.)

1 Registered Legal Entity or Organization Name			2 Telephone
3 Mailing Address Line 1			4 Mailing Address Line 2
5 Town/City	6 State/Province	7 Country United States	8 Zip/Postal Code

Certifying Official

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant.

9 Certifying Official Last Name		10 Certifying Official First Name (and MI if appropriate)	
11 Certifying Official Title			
12 Certifying Official Email Address			13 Telephone

Remove This Applicant

Add Another Applicant

Section C - Primary Contact Information (if other than Applicant)			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
		United States	
9 Email Address			10 Telephone

Section D - Building/Business Owner Information			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
Borie		Chris & Diana	
3 Mailing Address Line 1		4 Mailing Address Line 2	
P.O. Box 96			
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
Charlotte	VT	United States	05445
9 Email Address			10 Telephone
vermontwildflowerfarm@yahoo.com			

Part II Certifying Designer(s) Information			
1 Designer Last Name		2 Designer First Name (and Middle Initial if appropriate)	
Pitrowiski		John	
3 Designer License#	4 Company Name		
8104	Trudell Consulting Engineers		
5 Mailing Address Line 1		6 Mailing Address Line 2	
478 Blair Park Rd.			
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Williston	VT	United States	05495
11 Email Address			12 Telephone
john.pitrowiski@tcevt.com			8028796331
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
Remove This Designer			

Add Another Designer

Part III Property Location Information	
Section A - Property Location	
1 Please provide the property Town and the property address or a brief description of the location.	
(a) Town or City	(b) Street or Road Location
Charlotte	3488 Ethan Allen Highway

Section B - Center of Property GPS Coordinates

1 Enter the approximate center of property coordinates using GPS set for NAD83 or as derived from a map (map must be based on NAD83).

(a) Latitude (in decimal degrees to five decimal places, ex. 44.38181°) (b) Longitude (in decimal degrees to five decimal places, ex. -72.31392 °)

N ° W (-) °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable) 2 Total Acreage of Property

3 Business Name (if applicable)

4 Detailed Project Description

5 (a) Were all existing buildings or structures, campgrounds, and their associated potable water supplies and wastewater systems substantially completed before January 1, 2007? Yes No

(b) Were all existing improved and unimproved lots in existence before January 1, 2007? Yes No

6 Does this application include subdividing the property? Yes No

7 Has anyone from the Drinking Water & Groundwater Protection Division's Regional Office been to the property? Yes No

If Yes, enter the staff person's name and the date of the visit.

(a) Name of Staff Person (b) Date of Visit (m/d/yyyy)

8 Will any construction occur within 50 feet of a wetland boundary, mapped or designated? Yes No

If Yes, contact the Wetlands Program of the Watershed Management Division at (802) 338-4835.

9 Will more than one acre be disturbed during the entire course of construction, including all lots and phases? Yes No

If Yes, contact the Stormwater Program of the Watershed Management Division at (802) 241-4320.

10 Will there be any stream crossings by roads, utilities, or other construction? Yes No

If Yes, contact the River Corridor Mgmt. Program of the Watershed Management Division at:

Central & Northwest Vermont (802) 879-5631
 Southern Vermont (802) 786-5906
 Northeastern Vermont (802) 751-0129

11 Is the project located in a special flood hazard area as designated on the flood insurance maps prepared for a municipality by the Federal Emergency Management Agency? Yes No

If Yes, show the special flood hazard area limits on the site plan.

12 Act 250: Has the Applicant (Landowner) subdivided any other lots of any size within a five mile radius of this subdivision, or within the environmental district within the last five years? Yes No

If Yes, enter the town(s) and the associated number of lots in the table below:

	(a) Town	(b) Number of Lots
X	<input type="text"/>	<input type="text"/>

13 Is there any prior Act 250 jurisdiction on the tract of land? Yes No

If Yes, enter the Act 250 permit number:

(a) Act 250 Permit Number

Section B - Project Deed Reference

1 Please provide the Town, Parcel ID, Book, and Page reference for the current landowner's deed(s) to this property:

	(a) Town	(b) Parcel ID	(c) Book	(d) Page(s)
X	Charlotte	00100-3488	156	72

Add Another Deed Reference

Section C - Project Plan Reference

1 Please provide the following information for all water supply and wastewater disposal system plans being submitted.

	(a) Sheet#	(b) Title	(c) Plan Date	(d) Plan Revision Date
X	C1-01	Existing Conditions	8/21/2013	
X	C3-01	Wastewater Site Plan	10/18/2013	
X	C8-01	Sanitary Details	10/18/2013	
X	C8-02	Site Details and Notes	10/18/2013	
X	C8-03	Sanitary & Water Notes	10/18/2013	

Add Another Plan Reference

Section D - Existing Project Lot/Building Details

Please provide the existing project details. This section is used to describe what is existing for the project. For example, if you are subdividing an undeveloped 21-acre parcel, you would list the existing parcel. If you are revising the boundary lines of two commercial lots in an industrial park, and constructing an addition to an existing building you would list the existing lot numbers, existing acres, existing buildings, existing uses, construction date(s), prior permits, and answer the compliance questions.

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
1	5.13	Commercial / Residential

4 Provide the following information for each building on the lot:

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
X Building 1	Mixed Use (Comm/Res)			<input type="radio"/> Yes <input checked="" type="radio"/> No

Add Another Building

Remove This Lot

Add Another Lot

Section E - Proposed Project Lot/Building Details

This section is used to describe what you are proposing to do in this project. For example, if you were going to create 4 lots for construction of single family residences, you would list each lot, proposed acreage, proposed buildings, and proposed use.

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
1	5.13	Commercial / Residential

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules?

7 Provide the following information for each building on the lot:

(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X Building 1		<input checked="" type="checkbox"/>	Commercial/Residential

Add Another Building

Remove This Lot

Add Another Lot

Part V Water Supply Information

Section A - Water Supply Screening Questions

- 1 Are you proposing a new water supply or water service line or changes to a permitted but not constructed water supply or water service line for this project? Yes No
- 2 Are you proposing changes to an existing water supply or water service for this project (including changes to location, design flows, or operational change)? Yes No
- 3 Is there an existing connection to a water supply or water service line for this project? Yes No

Complete Part V if you answered Yes to any of the above questions. A project with no existing or proposed water supply may skip to Part VI.

Section B - General Water Supply Questions

- 1 Does this project involve a failed water supply? Yes No
- 2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? Yes No
If Yes, the applicant must contact the Drinking Water & Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.
- 3 Are any of the existing or proposed water sources located within a special flood hazard area? Yes No
- 4 Are any of the existing or proposed water sources located within a floodway? Yes No
- 5 Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website? Yes No
If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.
- 6 Does this project require an approval letter from the Drinking Water & Groundwater Protection Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? Yes No
If Yes, please submit a copy of the approval letter from the Drinking Water & Groundwater Protection Division.
- 7 Does the proposed or existing water supply(ies) use a water treatment device to obtain compliance with the quality requirements in the Water Supply Rule? Yes No
If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.
- 8 Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No
If in areas of known interference issues, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Water Supply Details

Please provide the following information for each of the existing and proposed water supply(ies) serving a building or structure, or campground on the property.

1 Water Supply Name/Identifier VT Wildflower Farm Existing Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New Connection or Increased Flow

5 Lots/Buildings Served by this Water Supply System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	Design Flows (Gallons Per Day)			(g) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Total	
X	1	Building 1	Increased Flow (no construction)	0	1,000	1,000	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
0	1,000	1,000

9 Is this water supply located off-lot? Yes No

10 Is this water supply shared? Yes No

If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.

11 Is a variance being requested for this water supply? Yes No

If Yes, please submit additional details related to the variance request.

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

1 If the project includes more than one water supply, please list each water supply system and provide the total water supply design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)		
	(b) Existing	(c) Change	(d) Total
X Wildflower Farm Existing Well	0	1,000	1,000
Add Another Water Supply	2	3	4
	0	1,000	1,000

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

1 Are you proposing a new or replacement wastewater disposal system, a new wastewater service line, or changes to a permitted but not constructed wastewater disposal system or wastewater service line for this project? Yes No

2 Are you proposing changes to an existing wastewater disposal system, replacement wastewater disposal system, replacement area, or wastewater service line for this project (including changes to location, design flows, or operational change)? Yes No

3 Is there an existing connection to a wastewater disposal system or wastewater service line for this project? Yes No

*Complete Part VI if you answered Yes to any of the above questions.
A project with no existing or proposed wastewater disposal systems may skip to Part VII.*

Section B - General Wastewater Disposal System Questions

1 Does this project involve a failed wastewater disposal system? Yes No

2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No

3 Is a hydrogeologic study required for this project? Yes No

4 For projects using soil-based wastewater systems having a total design flow that exceeds 1,000 gpd, is this project located in a Class A Watershed? Yes No NA

If Yes, indicate the Class A Watershed in which the system(s) is located:

(a) Class A Watershed Name

5 Are there any existing or proposed floor drains as part of this project?..... Yes No

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

Select

6 If the project utilizes an Innovative/Alternative System or Product, has the applicant received a copy of the Drinking Water & Groundwater Protection Division's approval letter? Yes No NA

7 Is any portion of the proposed wastewater disposal system located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No

If Yes, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Wastewater Disposal System Details

Please provide the following information for each of the existing and proposed wastewater disposal systems serving a building or structure, or campground on the property.

1 Wastewater Disposal System Name/Identifier VT Wildflower Farm Mound System	2 Wastewater Disposal System Owner (if not Applicant)
3 Wastewater Disposal System Type Mound	4 Type of Change to System New System

5 Lots/Buildings Served by this Wastewater Disposal System

(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
			(d) Existing	(e) Change	(f) Infiltration	(g) Total	
X 1	Building 1	Connection to New System	0	1,000	0	1,000	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			0	1,000	0	1,000	

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used
Performance Based

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

- Storage and Dose
- Filtrate
- Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

1 Wastewater Disposal System Name/Identifier

Existing System

2 Wastewater Disposal System Owner (if not Applicant)

3 Wastewater Disposal System Type

In-ground

4 Type of Change to System

No Change

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)			(g) Total	(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration		
X	1	Building 1	Connection to New System	0	1,000	0	1,000	Rule-based
Add Another Lot/Building Served by this System				6	7	8	9	
				0	1,000	0	1,000	

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used

Performance Based

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

- Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

Add Another Wastewater System

Section D - Wastewater Disposal Systems Design Flows Summary Table

1 If the project includes more than one wastewater disposal system, please list each system on this page and provide the total wastewater disposal design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

		Design Flows (Gallons Per Day)			
(a) Wastewater Disposal System Name/Identifier	(b) Existing	(c) Change	(d) Infiltration	(e) Total	
X VT Wildflower Farm Mound	0	1,000	0	1,000	
	2	3	4	5	
Add Another Wastewater System	0	1,000	0	1,000	

Part VII Application Fees

1 Fee Amount \$580.00

2 Fee Calculation Details

Greater than 560 and less than or equal to 2000 GPD.

Part VIII Designer Certification & Copyright License

Section A - Certifying Designer 1 Certification & Copyright License

"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1 Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section A, Line 13.

- Water Supply Designer
- Wastewater Disposal System Designer

1 Designer 1 Name John P. Pitrowiski, P.E.	2 Designer 1 Signature 	3 Signature Date 10/17/13
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Section B - Certifying Designer 2 Certification & Copyright License

"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1 Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section B, Line 13.

- Water Supply Designer
- Wastewater Disposal System Designer

1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date

Part IX Applicant(s) Signature & Acknowledgements

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water & Groundwater Protection Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.

1 If we do visit your property, do you have any special instructions?

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

X	2 Print Applicant Name Chris & Diana Borie	3 Applicant Signature	4 Signature Date
----------	---	-----------------------	------------------

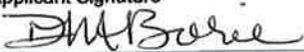
Add Applicant Signature Block

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

X	2 Print Applicant Name <input type="text" value="CHRIS BORIE"/>	3 Applicant Signature 	4 Signature Date 10-4-13
X	2 Print Applicant Name <input type="text" value="Diana Borie"/>	3 Applicant Signature 	4 Signature Date 10-4-13
<input type="button" value="Add Applicant Signature Block"/>			

ANR Form 4: Certification Statement for Notification of Overshadowed Property Owner(s) pursuant to the Wastewater System and Potable Water Supply Program

A person submitting an application to the Secretary for a Wastewater System and Potable Water Supply Permit where the proposed project has isolation distances (overshadowing) that extend onto property owned by persons other than the permit applicant shall submit the following certification with the application.

Note: When the property subject to the permit application is owned by more than one person, only one of the landowners must sign this certification statement even though all landowners must sign the permit application itself.

I hereby certify that the individual(s) that own property that is overshadowed by my proposed project have been sent by certified mail a copy of the required notification form and the site plan(s) that accurately depicts all isolation distances. I also certify that I attached to this certification form a copy of all certified mail receipts for notifications that were sent to the affected property owners.

Signature  
Name (Printed) CHRIS BORIE Diana Borie
Property Address or Property Tax ID # _____
Date of this certification _____

Please list all of the property owners who were sent a notification by certified mail.

Affected Property Owner(s) – (Please provide a second sheet using this format when there are more than three affected property owners)

Name RICHARD G. LEBUEUF % SHIRLEY BRUCE
Address 107 BITTERSWEET CIRCLE
WILKINSON, VT. 05495
Name TOWN OF CHARLOTTE
Address P.O. Box 119
CHARLOTTE, VT. 05445
Name _____
Address _____